

diameter of the crosshead pin. The thickness at the sides may be somewhat reduced. White metal is never used in this position, as it would not stand the hammering action during working. The brasses should butt at the joints, no liners being used. The cap is made of mild steel, and should

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be calculated with a bending moment of —, where P lb. is the total piston

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pressure and L in. is the distance between centres of bolts. A stress of 8000 lb. per square inch may be allowed, but often the thickness is made about equal to or a little more than the bolt diameter.

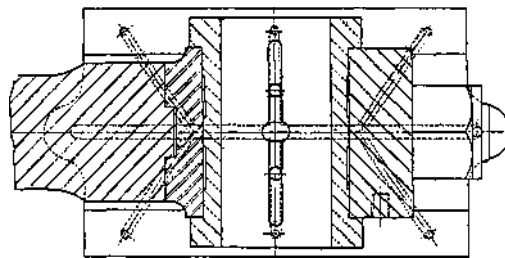
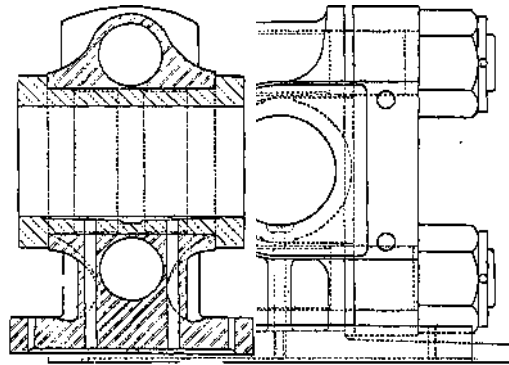


Fig. 41.—Howden Crosshead

The type with fixed gudgeons is shown in fig. 42. It will be seen that these form part of the main block, usually a steel forging to which the piston-rod is secured by a taper and a parallel part, as in the case of the piston-rod. This design allows the latter to be made from a plain bar. The slippers are made of cast steel, and are secured to the body of the crosshead by either screws or studs. In the case of bored guides the slippers are finished in a grinding machine. Some makers provide collars at the outer end of the

gudgeon-pins, and this course seems preferable, as it helps to prevent the jaws of the connecting-rod from spreading outwards due to the load.

The guides are of cast iron and are generally of the pendant bored type introduced by Messrs. Belliss & Morcom. In most cases they are cast